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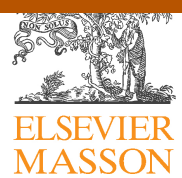

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ABSTRACTS OF THE 19TH CONGRESS OF ECHOCARDIOGRAPHY

Poster session: Left ventricular function - Heart failure

Hypocalcemia as a rare cause of reversible cardiomyopathy

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Hypocalcemia is a very rare cause of dilated cardiomyopathy with alteration more or less of the contractile function of left ventricle (LV). It is complicated rarely with heart failure.
We report two cases admitted to the cardiology department of the University Hospital Mohammed VI in Marrakech for congestive heart failure secondary to severe hypocalcemia.
Case 1.— A 29-year-old female was admitted in our hospital due to congestive heart failure with dyspnea (NYHA class IV) and generalized oedema for 2 days. She had a history of total thyroidectomie one year ago due to thyroidien goiter. She had taken synthyroid as a daily medication associated to calcium supplementation and vitamin D because of hypoparathyroidia. Patient was not compliant to treatment. Laboratory tests revealed severe hypocalcemia. Transthoracic echocardiography (TTE) showed a dilated LV with global hypokinesia and an ejection fraction (EF) at 25% and mild mitral regurgitation. A marked clinical improvement was noted after correction of hypocalcemia. Four months later, we observed a total recovery of LV function.
Case 2.— A 44-year-old male, without particular medical history, who was hospitalized for a congestive heart failure. TTE showed a dilated LV with severe alteration of systolic function (EF to 20%). Laboratory tests showed hypocalcemia, with decreased of a parathyroid hormone. There was improvement of symptoms after correction of metabolic disorder. The ventricle has gradually recovered its performance.
Hypocalcemia is an unrecognized cause of heart failure with a favorable prognosis. However, it requires a specific care.

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Left ventricular dysfunction in asymptomatic patients with systemic lupus erythematosus

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Objective.— Systemic lupus erythematosus (SLE) has been associated with an increased risk of cardiovascular disease. The aim of this study is to assess left ventricular (LV) function in asymptomatic patients with SLE.
Methods.— We included 58 female SLE patients without symptoms or signs of heart failure or angina (group I), and 58 healthy female subjects (group II). The 2 groups had similar mean age, mean blood pressure and body mass index. All included subjects had no evidence of valvular or ischemic heart diseases. We used standard echocardiography and tissue Doppler imaging (TDI).
Results.— There is no difference in conventional indices of global LV function. However, we observed lower mitral annulus systolic velocities measured by TDI suggesting subclinical LV systolic dysfunction (3.5 ± 1 cm/s vs. 7.8 ± 0.9 cm/s, $P < 0.01$). We also find impaired diastolic function with lower mitral annulus early diastolic velocities Em (7.2 ± 1.1 cm/s vs. 11.7 ± 1.8 cm/s, $P < 0.01$) and higher ratio of transmitral E wave velocities to Em velocities (12.2 ± 1.9 vs. 7.4 ± 1.2; $P < 0.01$). Among SLE patients, impaired LV systolic and diastolic indices are significantly pronounced in the subgroup with longer disease duration (> 10 years).
Conclusion.— This study shows the presence of LV systolic and diastolic dysfunction in asymptomatic SLE patients. Tissue Doppler imaging may provide a useful tool to monitor the disease process and treatment response of this subclinical myocardial dysfunction.

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Early diagnosis of left ventricular diastolic dysfunction in diabetic patients: A possible role for natriuretic peptides

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Purpose.— Epidemiological studies show a strong correlation between diabetes mellitus (DM) and heart failure. DM may result in cardiac and structural abnormalities (diabetic cardiomyopathy) before symptoms onset. The diagnosis of left ventricular (LV) dysfunction at this stage could offer the possibility of an early therapy to stop the progression to overt heart failure. The aim of the study was to verify whether BNP might detect preclinical diastolic dysfunction (LVDD) in type 2 diabetic patients.
Methods.— We enrolled 142 consecutive ambulatory patients (69 males and 73 female, age 35—65 years) with type 2 DM and without history of coronary artery disease. All patients underwent clinical evaluation, laboratory assessment of brain natriuretic peptide (BNP) and echocardiographic examination for detection of systolic (ejection fraction ≤ 40%) or diastolic dysfunction and LV hypertrophy (LV mass > 50 g/m2.7).
Results.— No patients showed systolic impairment of left ventricular function, whereas diastolic dysfunction was detected in 64 (45%) cases (all impaired relaxation). Median BNP was 30 pg/mL without any significant difference between 78 patients with normal left ventricular function and 64 with diastolic dysfunction;

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